# Safety data sheet
**according to 1907/2006/EC, Article 31**

*Printing date 23.02.2018* *Version number 5* *Revision: 19.07.2016*

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name: RM 101 ASF**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture** Descalant

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Alfred Kärcher GmbH & Co. KG
Alfred-Kärcher-Str. 28-40
D - 71364 Winnenden

Postfach 160
D - 71349 Winnenden

Tel.: +49-7195-14-0
Fax : +49-7195-14-2212

www.karcher.com

Distributor:
Kaercher (UK) Ltd.
Kaercher House
Beaumont Road
Banbury
Oxon OX16 1TB
Great Britain

Tel.: +44-1295-752-000
Fax : +44-1295-266-436

· **Further information obtainable from:**
Department PCD-D
Tel.: +49-7195-14-2548
Fax : +49-7195-14-3164
safetydata@karcher.com

· **1.4 Emergency telephone number:**

For Hazardous Materials [or Dangerous Goods] Incidents
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-741-5970 (collect calls accepted)



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## SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

| | | |
|---|---|---|
| Met. Corr.1 | H290 | May be corrosive to metals. |
| Skin Corr. 1B | H314 | Causes severe skin burns and eye damage. |
| Eye Dam. 1 | H318 | Causes serious eye damage. |
| STOT SE 3 | H335 | May cause respiratory irritation. |

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**
hydrochloric acid
· **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
· **Precautionary statements**

| | |
|---|---|
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER/doctor. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

· **Additional information:**
Contains but-2-yne-1,4-diol. May produce an allergic reaction.
· **2.3 Other hazards**
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.



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## SECTION 3: Composition/information on ingredients

· ***3.2 Chemical characterisation: Mixtures***
· ***Description:*** *Mixture consisting of the following components.*

· ***Dangerous components:***

| | | |
|---|---|---|
| *CAS: 7647-01-0*<br>*EINECS: 231-595-7*<br>*Index number: 017-002-00-2*<br>*Reg.nr.: 01-2119484862-27-xxxx* | *hydrochloric acid*<br>*Met. Corr.1, H290; Skin Corr. 1B, H314; STOT SE 3, H335* | *50-100%* |
| *CAS: 110-65-6*<br>*EINECS: 203-788-6*<br>*Index number: 603-076-00-9*<br>*Reg.nr.: 01-2119489899-05-xxxx* | *but-2-yne-1,4-diol*<br>*Acute Tox. 3, H301; Acute Tox. 3, H331; STOT RE 2, H373; Skin Corr. 1B, H314; Acute Tox. 4, H312; Skin Sens. 1, H317* | *0.1-<1%* |

· ***Additional information*** *For the wording of the listed hazard phrases refer to section 16.*

## SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information***
*Involve doctor immediately.*
*Immediately remove any clothing soiled by the product.*
· ***After inhalation***
*In case of unconsciousness place patient stably in side position for transportation.*
*Supply fresh air; consult doctor in case of complaints.*
· ***After skin contact***
*Call a doctor immediately.*
*Immediately wash with water and soap and rinse thoroughly.*
· ***After eye contact*** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
· ***After swallowing***
*Rinse out mouth and then drink plenty of water.*
*Seek immediate medical advice.*
*Do not induce vomiting; call for medical help immediately.*
*Drink plenty of water and provide fresh air. Call for a doctor immediately.*
· ***4.2 Most important symptoms and effects, both acute and delayed***
*No further relevant information available.*
· ***4.3 Indication of any immediate medical attention and special treatment needed***
*No further relevant information available.*

## SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents***
*CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
· ***For safety reasons unsuitable extinguishing agents*** *Water with full jet.*
· ***5.2 Special hazards arising from the substance or mixture*** *Hydrogen chloride (HCl)*
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *No special measures required.*

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· ***Additional information***
*Collect contaminated fire fighting water separately. It must not enter the sewage system.*

## SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
*Wear protective equipment. Keep unprotected persons away.*
· ***6.2 Environmental precautions:***
*Dilute with plenty of water.*
*Do not allow to enter sewers/ surface or ground water.*
*Do not allow to penetrate the ground/soil.*
· ***6.3 Methods and material for containment and cleaning up:***
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).*
*Use neutralising agent.*
*Dispose contaminated material as waste according to item 13.*
*Ensure adequate ventilation.*
· ***6.4 Reference to other sections***
*See Section 7 for information on safe handling*
*See Section 8 for information on personal protection equipment.*
*See Section 13 for disposal information.*

## SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling*** *Avoid contact with eyes and skin.*
· ***Information about fire - and explosion protection:*** *No special measures required.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and receptacles:*** *Store only in the original receptacle.*
· ***Information about storage in one common storage facility:***
*Keep away from food, beverages and feed.*
· ***Further information about storage conditions:***
*Store under lock and key and out of the reach of children.*
*Keep receptacle tightly sealed.*
· ***7.3 Specific end use(s)*** *No further relevant information available.*

## SECTION 8: Exposure controls/personal protection

· ***Additional information about design of technical facilities:*** *No further data; see item 7.*

· ***8.1 Control parameters***

| · ***Ingredients with limit values that require monitoring at the workplace:*** | |
|---|---|
| ***7647-01-0 hydrochloric acid*** | |
| *WEL* | *Short-term value: 8 mg/m³, 5 ppm*<br>*Long-term value: 2 mg/m³, 1 ppm*<br>*(gas and aerosol mists)* |

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· ***8.2 Exposure controls***
· ***Personal protective equipment***
· ***General protective and hygienic measures***
*Keep away from foodstuffs, beverages and feed.*
*Immediately remove all soiled and contaminated clothing*
*Wash hands before breaks and at the end of work.*
*Avoid contact with the eyes and skin.*
· ***Respiratory protection:***
*Short term filter device:*
*Filter A/P2.*
*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*
*Not necessary if room is well-ventilated.*
· ***Protection of hands:***
** chemical resistant protective gloves (EN 374)*
*Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*
*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

*Protective gloves.*

· ***Material of gloves*** *Butyl rubber, BR*
· ***Penetration time of glove material***
*The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.*
· ***For the permanent contact gloves made of the following materials are suitable:***
** butyl rubber 0,7 mm, 480 min*
· ***As protection from splashes gloves made of the following materials are suitable:***
** nitril rubber 0,4 mm, 30 min*
· ***Eye protection:***

*Tightly sealed goggles.*

· ***Body protection:*** *Protective work clothing.*

* 
## *SECTION 9: Physical and chemical properties*

· ***9.1 Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***
***Form:*** *Fluid*

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| | |
|---|---|
| **Colour:** | Light red |
| · **Odour:** | Pungent |
| · **Odour threshold:** | Not determined. |
| · **pH-value at 20 °C:** | 0 |
| · **pH-value 1 %:** | 0.6 |
| · **Change in condition** | |
| **Melting point/freezing point:** | -40 °C |
| **Initial boiling point and boiling range:** | 85 °C |
| · **Flash point:** | Not applicable |
| · **Flammability (solid, gaseous)** | Not applicable. |
| · **Ignition temperature:** | not applicable |
| · **Decomposition temperature:** | Not determined. |
| · **Auto-ignition temperature:** | Product is not selfigniting. |
| · **Explosive properties:** | Product does not present an explosion hazard. |
| · **Explosion limits:** | |
| **Lower:** | Not determined. |
| **Upper:** | Not determined. |
| · **Vapour pressure at 20 °C:** | 20 hPa |
| · **Density at 20 °C:** | 1.111 g/cm³ |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not determined. |
| · **Evaporation rate** | Not determined. |
| · **Solubility in / Miscibility with** | |
| **Water at 20 °C:** | 720 g/l |
| · **Partition coefficient: n-octanol/water:** | Not determined. |
| · **Viscosity:** | |
| **dynamic at 20 °C:** | 4 mPas |
| **kinematic:** | Not determined. |
| · **Solvent content:** | |
| **Organic solvents:** | 0.0 % |
| **VOC (EC)** | 0,02 % |
| · **9.2 Other information** | No further relevant information available. |

## SECTION 10: Stability and reactivity

· **10.1 Reactivity** corresponds to 10.3
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.

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· ***10.3 Possibility of hazardous reactions***
*Reacts with strong alkali*
*Forms hydrogen in aqueous solution with metals*
*Reacts with light alloys to form hydrogen*
· ***10.4 Conditions to avoid*** *No further relevant information available.*
· ***10.5 Incompatible materials:*** *No further relevant information available.*
· ***10.6 Hazardous decomposition products:***
*Hydrogen chloride (HCl)*
*Chlorine*

* 
## SECTION 11: Toxicological information

· ***11.1 Information on toxicological effects***
· ***Acute toxicity*** *Based on available data, the classification criteria are not met.*

| · ***LD/LC50 values relevant for classification:*** | | |
|---|---|---|
| ***7647-01-0 hydrochloric acid*** | | |
| *Inhalative* | *LC50* | *900 mg/kg (rabbit)* |
| ***110-65-6 but-2-yne-1,4-diol*** | | |
| *Inhalative* | *LC50* | *104 mg/kg (Rat)* |

· ***Primary irritant effect:***
· ***Skin corrosion/irritation***
*Causes severe skin burns and eye damage.*
· ***Serious eye damage/irritation***
*Causes serious eye damage.*
· ***Respiratory or skin sensitisation*** *Based on available data, the classification criteria are not met.*
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
· ***Germ cell mutagenicity*** *Based on available data, the classification criteria are not met.*
· ***Carcinogenicity*** *Based on available data, the classification criteria are not met.*
· ***Reproductive toxicity*** *Based on available data, the classification criteria are not met.*
· ***STOT-single exposure***
*May cause respiratory irritation.*
· ***STOT-repeated exposure*** *Based on available data, the classification criteria are not met.*
· ***Aspiration hazard*** *Based on available data, the classification criteria are not met.*

## SECTION 12: Ecological information

· ***12.1 Toxicity***
· ***Aquatic toxicity:*** *No further relevant information available.*
· ***12.2 Persistence and degradability*** *No further relevant information available.*
· ***12.3 Bioaccumulative potential*** *No further relevant information available.*
· ***12.4 Mobility in soil*** *No further relevant information available.*
· ***Additional ecological information:***
· ***COD-value:*** *5310 mg/l*
· ***General notes:***
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
*Must not reach sewage water or drainage ditch undiluted or unneutralised.*

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· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*
· ***12.6 Other adverse effects*** *No further relevant information available.*

## SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation***
*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*
*Must be specially treated adhering to official regulations.*

| · ***European waste catalogue*** | |
|---|---|
| *06 01 02** | *hydrochloric acid* |

· ***Uncleaned packaging:***
· ***Recommendation:***
*Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.*
*Non contaminated packagings may be recycled.*
· ***Recommended cleansing agents:*** *Water, if necessary together with cleaning agents.*

## SECTION 14: Transport information

· ***14.1 UN-Number***
· ***ADR, IMDG, IATA*** *UN1789*

· ***14.2 UN proper shipping name***
· ***ADR*** *1789 HYDROCHLORIC ACID*
· ***IMDG, IATA*** *HYDROCHLORIC ACID*

· ***14.3 Transport hazard class(es)***

· ***ADR***

· ***Class*** *8 (C1) Corrosive substances.*
· ***Label*** *8*

· ***IMDG, IATA***

· ***Class*** *8 Corrosive substances.*

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| | |
|---|---|
| · **Label** | 8 |
| · **14.4 Packing group** | |
| · **ADR, IMDG, IATA** | II |
| · **14.5 Environmental hazards:** | |
| · **Marine pollutant:** | No |
| · **14.6 Special precautions for user** | Warning: Corrosive substances. |
| · **Danger code (Kemler):** | 80 |
| · **EMS Number:** | F-A,S-B |
| · **Segregation groups** | Acids |
| · **Stowage Category** | E |
| · **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** | Not applicable. |
| · **Transport/Additional information:** | |
| · **ADR** | |
| · **Limited quantities (LQ)** | 1L |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · **Transport category** | 2 |
| · **Tunnel restriction code** | E |
| · **IMDG** | |
| · **Limited quantities (LQ)** | 1L |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · **UN "Model Regulation":** | UN 1789 HYDROCHLORIC ACID, 8, II |

* 
## SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Chlorwasserstoffsäure
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **National regulations**

· **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.



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## SECTION 16: Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*
*A product information sheet can be provided if requested.*

· ***Relevant phrases***
*H290 May be corrosive to metals.*
*H301 Toxic if swallowed.*
*H312 Harmful in contact with skin.*
*H314 Causes severe skin burns and eye damage.*
*H317 May cause an allergic skin reaction.*
*H331 Toxic if inhaled.*
*H335 May cause respiratory irritation.*
*H373 May cause damage to organs through prolonged or repeated exposure.*

· ***Department issuing SDS:*** *PCD-D*
· ***Contact:***
*Department PCD-D*
*Tel.: +49-7195-14-2548*
*Fax : +49-7195-14-3164*
*safetydata@karcher.com*
· ***Abbreviations and acronyms:***
*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
*ICAO: International Civil Aviation Organisation*
*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
*IMDG: International Maritime Code for Dangerous Goods*
*IATA: International Air Transport Association*
*EINECS: European Inventory of Existing Commercial Chemical Substances*
*ELINCS: European List of Notified Chemical Substances*
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*
*VOC: Volatile Organic Compounds (USA, EU)*
*LC50: Lethal concentration, 50 percent*
*LD50: Lethal dose, 50 percent*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
*Met. Corr.1: Corrosive to metals – Category 1*
*Acute Tox. 3: Acute toxicity – Category 3*
*Acute Tox. 4: Acute toxicity – Category 4*
*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*
*Skin Sens. 1: Skin sensitisation – Category 1*
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
· **** Data compared to the previous version altered.***

· *0·011-132·0* *RM 101/6·1* *1·921*